Monthly Progress Report
Corrective Measures Study (CMS) for Potential Release Site (PRS) 16-021(c)
August 2002

This report summarizes Los Alamos National Laboratory (LANL) activities completed during August of fiscal year (FY) 2002 on the CMS for PRS 16-021(c), the 260 outfall. Both the activities described in the CMS plan ([LA-UR-98-3918)], which was submitted to the New Mexico Environment Department-Hazardous Waste Bureau [NMED-HWB] on 9/30/98, and approved by NMED-HWB on 9/8/99), and other related activities are described herein.

Description of Activities and Contacts

High Performing Team (HPT) Activities – The 260 HPT met on August 12, 2002.

LANL representatives provided updates on the CMS sampling investigations, including quarterly sampling, the CMS bench and pilot studies, the drilling, and the interim measure. Additional details on these projects are provided below in this monthly progress report and in the July 2002 progress report.

LANL representatives outlined what was anticipated as next years work associated with the TA-16-260 CMS. This includes preparation of a short (10-20 pages) CMS plan addendum to address intermediate depth drilling, completion of the RFI and CMS Reports for the TA-16-260 surface CMS, intermediate depth borehole drilling, and continuation of monitoring and CMS sampling. It was also noted that LANL anticipated beginning projects at the 90s & 30s Line Ponds and at the Fish Ladder, pending budget availability. The former project would involve implementing the EPA-approved work plan plus additional intermediate depth boreholes in order to scope out a voluntary corrective measure (VCM) or interim measure (IM) at the ponds and the latter would be a coordinated project involving soil removal and characterization in association with the upcoming D&D project at TA-16-340. NMED expressed no disagreements with pursuing any of these activities.

LANL provided an update on the ecorisk work in Canon de Valle. The results for the aquatic ecosystem were discussed. The location at the SWSC cut showed negative impacts to biota in the aquatic tests. Higher mortality of the test organism was observed at this location. Data suggested either RDX in water or silver in sediment were the constituent generating the negative impacts. LANL will provide NMED with the documentation of this test method. It was noted that Dr. Jacoby was making progress on the aquatic invertebrate identifications. NMED personnel noted that documentation of the ecorisk results might be needed earlier than the submittal of the RFI Report, in order to change the eco screening levels.

The next HPT meeting is scheduled for October 21, 2002. Agenda items may include the RFI Report outline, CMS bench and pilot results, a data update, and points of compliance.

RCRA Facility Investigation (RFI) Report and CMS Plan– No new activities occurred during this reporting period.

Best Management Practices (BMPs)– BMPs are inspected quarterly and following significant precipitation events. No BMP repairs were required in August.

CMS Hydrogeologic Investigations–CMS hydrogeologic investigations include ongoing Phase II RFI sampling as well as continuing investigations outlined in the CMS plan.

The ongoing Phase II RFI sampling program includes collecting samples at Martin and Burning Ground spring every other day for stable isotopes. SWSC spring remains dry.

The wells, both alluvial and deep, were checked for both presence and level of water. Four out of five alluvial wells in Canon de Valle contained water, the uppermost well was dry. No water was present in the three alluvial wells in Martin Spring Canyon. All of the intermediate depth boreholes were dry.

The system remains relatively dry, although water was present in the 90s Line pond due to recent precipitation. The headwaters of Canon de Valle were dry. There was slightly more water in the hydrologic system at the beginning of the month. Flow integrated samples were collected at the springs.

Two samples from precipitation events were collected and archived for analysis during this reporting period.

Work continued on the Completion Report for well CdV-R-37-2. The peer review of the report was completed.

Groundwater modeling to investigate conceptual models for the deep-perched zone at TA-16 was continued and initial results were evaluated.

Ecological Risk Pilot–

Work continued on consolidating the aquatic and terrestrial system study and implementation plans. Data analysis to support the combined MDA-P and TA-16-260 ecorisk evaluations continued.

CMS Bench and Pilot Studies–Bench and pilot studies continued in collaboration with the Innovative Treatment Remediation Demonstration (ITRD) Program. The ITRD HE program is focused on two DOE sites: LANL and Pantex. Studies include:

1. A study of the passive barrier technology of Stormwater Management, Inc., which is potentially useful for removing HE and barium from waters.
2. A study of chemical treatment of HE-contaminated soil using zero-valent iron (ZVI). The LANL portion of this study has been completed.
3. At Pantex, a study of in situ anaerobic bioremediation of HE using gas-phase carbon additions.
4. A study of ex situ anaerobic bioremediation of HE-contaminated soils using the W. R. Grace process, which combines anaerobic bioremediation with a ZVI treatment. The LANL portion of this study has been completed.
5. A study of HE composting. Amendments appropriate to northern New Mexico were tested on both clean and contaminated soils. The LANL portion of this study has been completed. The internal report was completed on these studies
6. A study of immobilization of barium-contaminated sediments from Cañon de Valle. A preliminary study has been completed and further investigations are planned for FY 02.
7. Phytoremediation studies in Cañon de Valle. Native plants are being evaluated for their ability to remove HE from surface waters. Preliminary results suggest that low levels of phytoremediation are occurring in the Burning Ground spring area.
8. Oxidation, reduction, and in-situ bioremediation studies of groundwater contamination at Pantex.

Field summary reports for the phytoremediation and composting studies were completed and reviewed by the team. These will be discussed in a future HPT meeting and will likely be included as appendices on the upcoming CMS report.

***Interim Measure* (IM)** –

No activities. The IM Report is in review by the regulators.

Public and Stakeholder Involvement – No activities.

Percentage of CMS Completed

LANL estimates 90 % of the CMS has been completed to date. Note that this percentage does not reflect the deep and potential intermediate wells that will be drilled per the CMS plan addendum.

Problems Encountered/Actions to Rectify Problems

General Problem (1) The Cerro Grande fire has severely impacted the 260 RFI/CMS activities. These problems have been discussed in detail in previous monthly reports.

Action to Rectify General Problem (1): LANL will work closely with NMED through the HPT to mitigate the effects of the Cerro Grande fire. Effects of the fire on the monitoring data in Canon de Valle continue to be addressed.

CMS Hydrogeologic Investigations

Problem (1): Questions relating to the quality of data from well R-25 remains a concern to the TA-16-260 team.

Action to Rectify Problem (1): LANL will evaluate the data from the quarterly sampling of the R-25 well to evaluate its reliability.

CMS Bench and Pilot Studies

Problem (1): The fact that the Stormwater Management unit does not appear to be removing barium is of concern,

Action to Rectify Problem (1): LANL will work with ITRD to determine if there are problems with the barium-specific resin and will potentially evaluate other barrier materials.

IM

None.

Key Personnel Issues

None

Projected Work for September 2002

RFI Report and CMS Plan

- DQOs for intermediate depth boreholes will be developed.

BMPs

- Inspection of existing BMPs following significant precipitation events will continue.

CMS Hydrogeologic Investigations

- Maintenance of autosamplers
- Stream profiling to determine monsoonal response in Canon de Valle.
- Checking for levels and presence of water in alluvial and deep wells.
- Sampling of flow-integrated autosamplers

- Continued precipitation monitoring and sampling for stable isotopes.
- Data analysis
- Finalization of CdV-R-37-2 Well Completion Report
- Groundwater and natural attenuation modeling

Ecological Risk Pilot

- Submittal of rodent samples to the laboratories. Continued evaluation of data from macroinvertebrate studies.

CMS Bench and Pilot Studies

- Evaluation of data from Stormwater units. Evaluation of Stormwater media based on literature and contacts with TA-50 personnel.
- Stabilization studies

IM

- Task complete.

Public and Stakeholder Involvement

None anticipated.